

U.S. Patent Application No. 10/524,278  
Amendment dated May 7, 2007  
Reply to Office Action of February 7, 2007

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**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (Currently amended) An assay method for drug ~~metabolizing activity~~ glucuronidation of UDP-glucuronosyltransferase (UGT), comprising a step of detecting (a) mutation(s) in an exon 5 region of a gene coding for UGT having a nucleotide sequence that is common to each isoform of UGT1A1, UGT1A3, UGT1A4, UGT1A5, UGT1A6, UGT1A7, UGT1A8, UGT1A9, and UGT1A10 for a sample including a gene coding for UGT1, without conducting an assay for each of the isoforms, that correspond(s) to nucleotide number 1456 in the genetic sequence of UGT which encodes an amino acid at position 486 in the amino acid sequence of UGT1A1 molecule.

2. (Original) The assay method according to claim 1, further comprising a step of detecting (a) mutation(s) of an increase or decrease in the repeating sequence of TA present in a TATA box of a promoter region.

3 - 4. (Canceled)

5. (Previously presented) The assay method according to claim 1, comprising, in addition to the step of detecting the mutation(s), a step of detecting (a) mutation(s) in at least one region of the regions of exons 1, 2, 3, and 4 of a genetic sequence coding for a UGT molecule.

6. (Previously presented) The assay method according to claim 5, comprising a step of detecting at least one genetic sequence mutation of a mutation at nucleotide number 226 in a

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genetic sequence of UGT coding for an amino acid at position 71 in the amino acid sequence of UGT1A1 molecule and a mutation at nucleotide number 686 in a genetic sequence coding for an amino acid at position 229 in the amino acid sequence of UGT1A1 molecule.

7. (Withdrawn) A UGT gene having (a) mutation(s) comprising the base substitution described in claim 3, or a gene fragment including the mutation(s).

8. (Withdrawn) DNA fragments having a functionally effective length as assayed DNA that are provided for the detection method for a base substitution described in claim 1, or DNA fragments having a functionally effective length as probes for use in the detection method for a base substitution.

9. (Withdrawn) The DNA fragments according to claim 7, which are oligonucleotide probes that are specific to UGT having a base sequence set forth in any one of SEQ ID NOS: 1 to 3.

10. (Previously presented) The assay method according to claim 5, which uses a combination of probes having a base sequence set forth in SEQ ID NO: 1 and probes having a base sequence set forth in SEQ ID NO: 2 and/or 3.

11. (Withdrawn) A detection device in which the oligonucleotide probes according to claim 7 are provided within the same device.

12. (Withdrawn) The detection device according to claim 11, which is a nucleic acid array or

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a nucleic acid chip in which an end of the base sequence of the oligonucleotide probes according to claim 7 is immobilized by bonding to an insoluble support via a functional group.

13. (Currently amended) A method for assessing, predicting or assaying drug metabolism using ~~the device according to claim 11~~ a detection device in which probes having a base sequence set forth in SEQ ID NO: 1 and probes having a base sequence set forth in SEQ ID NO: 2 and/or 3 are provided within the same device.

14. (Withdrawn) An assay kit used in an assay method for drug metabolizing activity of UDP-glucuronosyltransferase (UGT), comprising a step of detecting (a) mutation(s) in an exon 5 region of a gene coding for UGT, which includes the nucleic acid fragments according to claim 7.

15. (Withdrawn) An assay kit used in an assay method for drug metabolizing activity of UDP-glucuronosyltransferase (UGT), comprising a step of detecting (a) mutation(s) in an exon 5 region of a gene coding for UGT, which includes the nucleic acid fragments according to claim 8.

16. (Withdrawn) The DNA fragments according to claim 8, which are oligonucleotide probes that are specific to UGT having a base sequence set forth in any one of SEQ ID NOS: 1 to 3.

17. (Canceled)

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18. (Withdrawn) A UGT gene having (a) mutation(s) comprising the base substitution described in claim 4, or a gene fragment including the mutation(s).

19. (Previously presented) The assay method according to claim 6, which uses a combination of probes having a base sequence set forth in SEQ ID NO: 1 and probes having a base sequence set forth in SEQ ID NO: 2 and/or 3.

20. (New) An assay method for drug glucuronidation of UDP-glucuronosyltransferase (UGT), comprising a step of detecting (a) mutation(s) in an exon 5 region of a gene coding for UGT by using a combination of probes having a base sequence set forth in SEQ ID NO: 1 and probes having a base sequence set forth in SEQ ID NO: 2 and/or 3.

21. (New) The assay method according to claim 20, further comprising a step of detecting (a) mutation(s) of an increase or decrease in the repeating sequence of TA present in a TATA box of a promoter region.